



THE UNDER SECRETARY OF DEFENSE

3010 DEFENSE PENTAGON  
WASHINGTON, DC 20301-3010

MAY 13 2008

ACQUISITION,  
TECHNOLOGY  
AND LOGISTICS

MEMORANDUM FOR: SEE DISTRIBUTION

SUBJECT: Environment, Safety and Occupational Health (ESOH) Risks from Engineered Nanomaterials

This memorandum reinforces responsibilities and provides information for managing ESOH risks of engineered nanomaterials in DoD research, acquisition, operations, and support. The Department is committed to realizing mission benefits from engineered nanomaterials. At the nanoscale (the size range between approximately 1 and 100 nanometers), material properties may enable new mission applications but may also present ESOH risks that are different than those for comparable material at a larger scale. A few studies have indicated potential ESOH risks in very specific nanomaterial systems and conditions, but they do not provide sufficient information at this time to direct risk controls or to assign risk uniformly.

Science and technology (S&T) managers, acquisition program managers (PMs), and ESOH professionals should exercise due diligence in meeting their responsibilities to protect the health and safety of workers and the public, and to protect the environment. S&T managers should support ESOH risk research to close information gaps in developmental efforts using nanomaterials. As with any materials technology, PMs must ensure ESOH hazards are identified and the associated risks managed pursuant to DoDI 5000.2, Military Standard 882D, and other DoD policy requirements. Appropriate acquisition documentation should reflect ESOH hazard and risk assessments in both technology and system development efforts that involve engineered nanomaterials. DoD developers and users shall follow the procedures in DoDI 6050.05 for storing and using engineered nanomaterials in each workplace.

ESOH professionals will be challenged by the rapidly evolving nature of nanomaterials, especially while no current set of standards exists to fully evaluate their ESOH risks. Nevertheless, they shall maintain current knowledge of ESOH risks for engineered nanomaterials and provide S&T managers, PMs, and users with ESOH risk management options required by DoDI 6055.5. As information relevant to emerging nanomaterials risk science and policy issues becomes available, it will be posted at the Defense ESOH Information Exchange site ([www.DENIX/osd.mil](http://www.DENIX/osd.mil) under the MERIT working group). A list of ESOH risk information resources is attached. My point of contact is Ms. Shannon Cunniff, Director, Emerging Contaminants, at [shannon.cunniff@osd.mil](mailto:shannon.cunniff@osd.mil).

*Jack Bell, Acting*  
John J. Young, Jr. 5-13-08

Attachment:  
As stated



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## NANOMATERIALS ESOH RISK INFORMATION RESOURCES

### Defense Information Resources:

Defense Environmental Information Exchange (DENIX):

<https://www.denix.osd.mil/denix/Public/Library/MERIT/merit.html>

### Other Federal Government Information Resources

Department of Energy (DOE):

[http://www.sc.doe.gov/bes/DOE\\_NSRC\\_Approach\\_to\\_Nanomaterial\\_ESH.pdf](http://www.sc.doe.gov/bes/DOE_NSRC_Approach_to_Nanomaterial_ESH.pdf)

Environmental Protection Agency (EPA):

<http://es.epa.gov/ncer/nano/>

National Institute for Occupational Safety and Health (NIOSH):

<http://www.cdc.gov/niosh/topics/nanotech/default.html>

National Nanotechnology Initiative (NNI):

<http://www.nano.gov/html/society/EHS.html>

Office of Science and Technology Policy and Council on Environmental Quality

Principles for Nanotechnology Environmental, Health, and Safety Oversight:

[http://www.ostp.gov/galleries/default-](http://www.ostp.gov/galleries/default-file/Nano%20EHS%20Principles%20Memo_OSTP-CEQ_FINAL.pdf)

[file/Nano%20EHS%20Principles%20Memo\\_OSTP-CEQ\\_FINAL.pdf](http://www.ostp.gov/galleries/default-file/Nano%20EHS%20Principles%20Memo_OSTP-CEQ_FINAL.pdf)